



Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

NOTES ON ARACHNOIDISCUS.

BY SARAH P. MONKS.

While studying specimens of *Hemiptychus* (*Arachnoidiscus*), which are extremely abundant in many San Pedro, California, tidepools, an unusual form was found which may be called a variety of *Arachnoidiscus ehrenbergii*.

Instead of being circular with rays of equal length, it is blunt-cuneiform, with sides compressed and two sets of short rays. In all but shape and rays, even in various sizes and deformations, it is a true *Arachnoidiscus*, and I have called it *A. ehrenbergii* var. *cuneatus*.

It is quite abundant, thirty specimens being found in thirty micro-mounts.

The change of shape is no doubt partly due to overcrowding, for although there are miles of tide-pools and millions of sea-plants to choose from, the diatoms are often on some plants in almost incredible abundance.

These alien epiphytes crowd on many different algae—on stiff *Gelidium*, stony Corallines, and even on the flexible stems of other plants. Sometimes in shallow tidepools nearer land which are exposed to winter cold, or summer heat, during very low tide, the diatoms are killed, and then the host plant is gray-coated like sleet-crusted trees in winter. But when alive the brown of the diatoms entirely covers the stem of the host 'like a shiny varnish, and the only chance the burdened alga has is for terminal growth. When the brown film dies, on exposure to the sun or the dry air, the whole colony shows the green of chlorophyll, and this green remains for years; then when nothing remains but skeletons the effect is grayish white and the diatoms still stick to the host plant. Not only are the algae burdened with "an innumerable host" of *Arachnoidiscus*, but there are co-dwellers, members of ten or more other genera.

The habits of these diatoms may account for the many and various irregularities of *Arachnoidiscus*. Species of *Isthmia* hang in festoons and swing away from the alga's stems, as do some *Biddulpha*

also; acicular species like *Lichmophora* and *Climacosphenia* shoot out at many angles, thus leaving *Arachnoidiscus* and other sedentary forms to bear the burden of growth-pressure. This intensive growth pressure in the struggle for existence in the overcrowded sea-tenement may be responsible for the many deformations of diatoms and the forming of *Arachnoidiscus ehrenbergii* var. *cuneatus*.